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POST-GRADUATE

COURSES OF STUDY,

1889.



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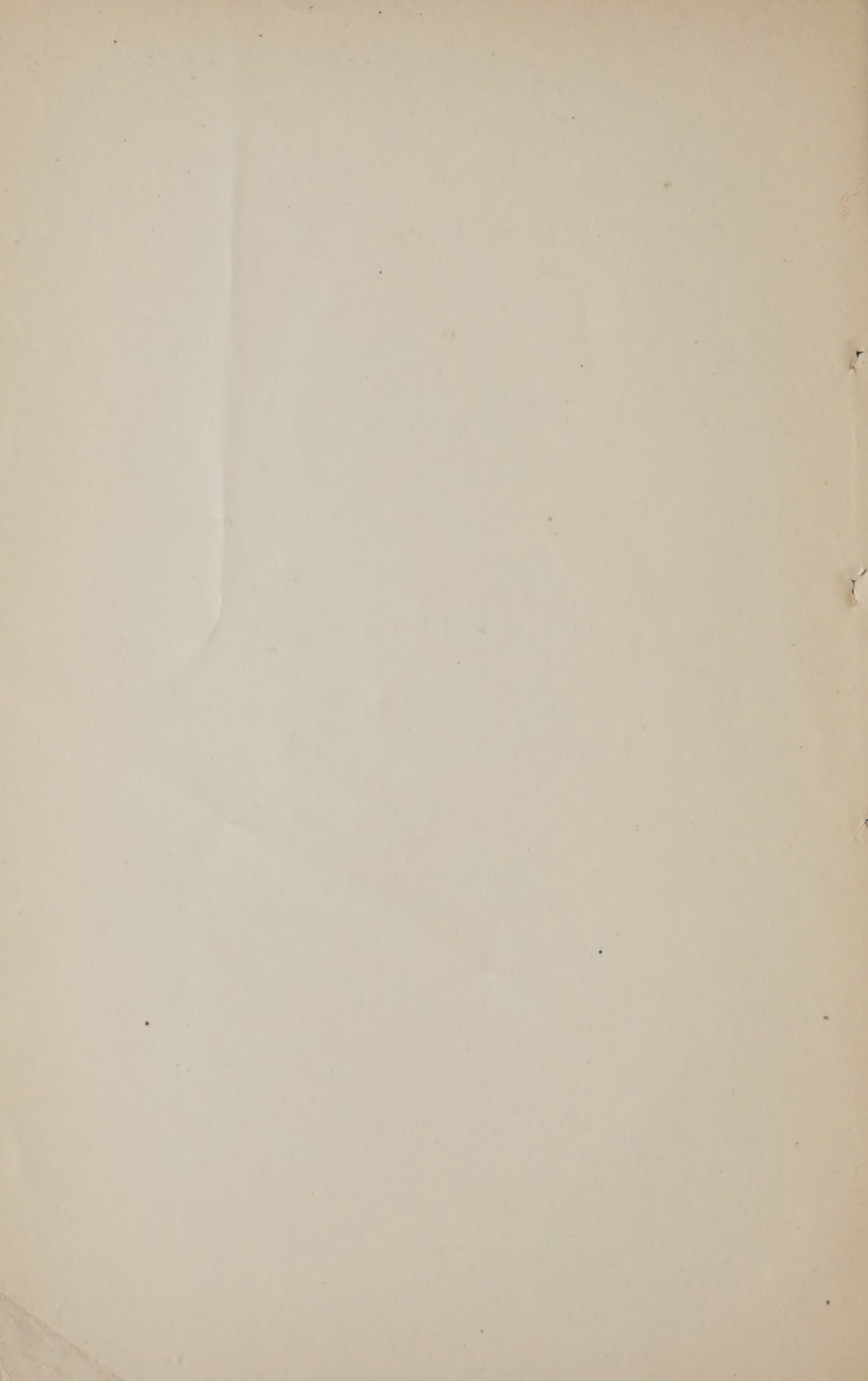
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1889.

SYRACUSE, N. Y.:
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EXAMINERS.

REV. CHAS. N. SIMS, D. D., LL. D., CHANCELLOR,

English Literature.

JOHN R. FRENCH, LL. D., DEAN,

Mathematics.

REV. W. P. CODDINGTON, D. D.,

Greek, Philosophy, Evidences of Christianity.

REV. JOHN J. BROWN, LL. D., *Chemistry, Physical Science.*

GEORGE F. COMFORT, A. M.,

French, German, Esthetics and History of the Fine Arts.

FRANK SMALLEY, A. M.,

Latin.

REV. CHARLES J. LITTLE, LL. D.,

History.

LUCIEN M. UNDERWOOD, PH. D.,

Botany, Geology, Zoology.

SYRACUSE UNIVERSITY.

COLLEGE OF LIBERAL ARTS.

COURSES OF POST-GRADUATE STUDY.

To promote systematic and thorough culture, the Master's degree and the degree of Doctor of Philosophy will be conferred upon any Bachelor of Arts, of Science, or of Philosophy of any reputable college who shall comply with the following requirements.

The following courses of study are presented, which may be pursued by non-resident graduates. Any three of the groups or units designated by the Roman numerals, I, II, III, etc., provided they are selected from the same department, will be regarded as one year's study. On passing a satisfactory examination therein, the candidate will be entitled to the second degree, *i. e.*, a Bachelor of Science, of Philosophy, or of Arts, will be entitled to the corresponding Master's degree. After satisfactory examination on another year's course of study, selected as before explained, the degree of Ph. D. will be conferred. These degrees are offered to none but regular graduates of colleges, and the Master's degree conferred *in cursu* or *causa honoris* will not be accepted as a substitute for the first year's post-graduate study. In this University a study of Latin equivalent to four books of Cæsar is requisite for the degree of B. S., and the higher degrees will not be conferred upon any who are not thus qualified.

Candidates for these degrees will furnish documentary evidence by diploma or otherwise, that the required Bachelor's degree has been received, and before entering upon their studies will matriculate by the payment of the matriculation fee and by furnishing to the Dean of the Faculty, Prof. John R. French, the following items:—(1) Name in full, (2) residence, (3) age, (4) present occupation, (5) date of graduation, (6) from what college graduated, (7) degree received, (8) under-graduate course pursued (classical or otherwise), (9) post-graduate course proposed. Blanks for this purpose will be furnished on application.

The candidate will appear at the University for examination, and will present and defend a thesis of not less than four thousand words on some subject connected with the course of study pursued. Examinations upon the work of the two years may be taken at one time, or in two sections—each covering the work of one year—as may be desired; but examinations will not be given upon smaller fractions of the course. They may occur at any time (except in June) that shall be mutually convenient. For obvious reasons the Faculty have deemed it wise to require all candidates on the continent of North America to take these examinations in Syracuse. All requests for question papers to be sent elsewhere are declined. The examinations are somewhat rigorous, occupying from two to five days upon each year's work.

Candidates for these degrees are requested to give to the Dean of the Faculty, at least six weeks' notice of the subjects upon which they desire to be examined, and the time for such examination will then be arranged by correspondence. The following fees are required to be prepaid:

Matriculation,	-	-	-	\$ 5.00
Examination, for each year's course,	-	-	-	20.00
Diplomas, each,	-	-	-	5.00

Information as to matters of detail relating to any particular course may be obtained by addressing the Examiner in the department involved.

ENGLISH LITERATURE.

I.

1. Early English Literature.⁵³ *Washburn.*
2. Hand-book of Poetics.²⁹ *Gummere.*
3. Chaucer's Canterbury Tales.
4. Morley's Chaucer.³²

II.

1. Lectures on the English Language.⁵⁵ *Marsh.*
2. History of English Literature.³⁵ *Taine.* Vol. I. to Chap. iii.
3. Milton's Poetical Works.
4. Morley's Milton.³²

III.

1. Dramatic Literature. *Schlegel.*
2. Any twelve plays of Shakespeare, including Hamlet, King Lear, Julius Cæsar, and Mid-Summer Night's Dream.
3. Reliques of Ancient Poetry.⁵² *Percy.*
4. Morley's De Foe.³²

IV.

1. History of English Literature.³⁵ *Taine.* Vol. i. Completed.
2. Pope's Essays on Criticism; and on Man.
3. Morley's Pope.³²
4. Literature of Europe.³ *Hallam.* Vols. i. and ii.

V.

1. History of English Literature.³⁵ *Taine.* Vol. ii, books iii and iv.
2. Literature of Europe.³ *Hallam.* Vol. iii.
3. Morley's Johnson.³²
4. Biography and Criticism.⁶¹ *Bayne.* Series i.

NOTE.—The reference numerals indicate the publishers of the books named. See list at the end.

VI.

1. History of English Literature. *Taine*. Completed.
2. Literature of Europe. *Hallam*. Vol. iv.
3. Biography and Criticism. *Bayne*. Series ii.
4. Morley's Wordsworth.³²
5. Written review (3,000 to 5,000 words) on American Literature embracing historians, poets, essayists, novelists and magazine literature preparatory to an oral examination on the general subject of American Literature.

MATHEMATICS.

[The entire works named are included unless otherwise indicated.]

I.

Plane and Spherical Trigonometry.⁴¹ *Chauvenet.*
Analytical Geometry of two and three dimensions.⁴¹ *Johnson.*

II.

Analytical Geometry.⁷¹ *Howison, unabridged.*

III.

Differential Calculus.⁷⁰ *Rice and Johnson, unabridged.*

IV.

Integral Calculus.²⁹ *Byerly.*

V.

Analytical Mechanics.⁴ *Bartlett.*

VI.

Acoustics and Optics.⁴ *Bartlett.*

VII.

Spherical and Practical Astronomy.⁴¹ *Chauvenet.* Vol. i. to
Eclipses.

VIII.

Spherical and Practical Astronomy.⁴¹ *Chauvenet.* Vol. i. com-
pleted.

IX.

Elements of Quaternions.²⁹ *Hardy.*

X.

Theory of Determinants.⁶⁴ *Scott.*

GREEK LANGUAGE AND LITERATURE.*

FIRST YEAR.

I.

1. History of Classical Greek Literature.³² (2 Vols.) *Mahaffey*.
2. Manual of Mythology.⁶⁷ *A. S. Murray*.
3. Homer's Iliad.⁴⁴ (I. IX. XI. XVI. XXIV.) *Pratt & Leaf*.

II.

1. The Life of the Greeks and Romans.² *Guhl & Koner*.
2. Troja.³² *Schliemann*.
3. Homer's Odyssey.⁴⁴ (XXI. XXIV.) *Hamilton*.

III.

1. Studies of the Greek Poets.³² *Symonds*.
2. Theology of the Greek Poets.²⁰ *Tyler*.
3. Selected Order of Pindar.²⁹ *Seymour*.

SECOND YEAR.

I.

1. Æschylus, { Prometheus Bound¹ *Mather*.
 { Seven against Thebes.²⁹ *Flagg*.
2. Sophocles, { Ajax.¹ *Jebb*.
 { Antigone.²⁹ *D'ooge*.
3. Euripides, { Medea.²⁹ *Allen*.
 { Bacchantes.²⁹ *Beckwith*.

II.

1. Aristophanes, { Clouds.⁵ *Felton*.
 { Knights.⁴⁴ *Merry*.
2. Plato, { Gorgias.¹⁰ *Woolsey*.
 { Republic.⁴⁴ (Books I. IV.) *Warren*.
3. A Thesis of not less than 4,000 words comparing the Electra of Sophocles with the Choephori of Æschylus and the Electra of Euripides.

* In this department the candidate is required to take each year entire.

II

III.

1. Thucydides.²⁹ Book I. *Morris.*
2. Æschines against Ctesiphon.⁴⁴ *Gwatkin.*
3. Select Orations of Lysias.³⁰ *Stevens.*

Also a thesis of not less than 4,000 words comparing the ancient and the modern drama.

The candidate is not confined to the special editions of the classical author above named.

PHILOSOPHY.*

A. METAPHYSICS

FIRST YEAR.

I.

1. History of Philosophy.⁶⁷ *Morris' Ueberweg*. Vol. I. pp. 14-137.
2. Socrates and the Socratic Schools.⁴³ *Zeller*.
3. Outlines of the Philosophy of Aristotle.⁴⁴ *Wallace*.

II.

1. History of Philosophy.⁶⁷ *Morris' Ueberweg*. Vol. I. pp. 137-259.
2. The Stoics.⁴³ *Zeller*.
3. The Province of Reason.⁶⁰ *Young*.

III.

1. History of Philosophy.⁶⁷ *Morris' Ueberweg*. Vol. I. pp. 261-484.
2. Philosophy of Christianity.³⁰ *Morris*.
3. A Thesis (of not less than 4,000 words) on the doctrine of the "idea" in Ancient Philosophy.

SECOND YEAR.

I.

1. History of Philosophy.⁶⁷ *Morris' Ueberweg*. Vol. II. pp. 1-135.
2. The Scottish Philosophy.¹¹ *McCosh*.
3. Lectures on Modern Philosophy.² *Cousin*.

* In this department the candidate is required to take each year entire.

II.

1. History of Philosophy.⁵⁷ *Morris' Ueberweg.* Vol. II. pp.
135-347.
2. Critique of the Pure Reason.³⁰ *Kant.*
3. History of Recent British Philosophy.⁴⁴ *Masson.*

III.

1. The Intuitions of the Mind.¹¹ *Mc Cosh.*
2. Review of Herbert Spencer.⁵¹ *Bowne.*
3. Thesis on Pessimism in Modern Philosophy.

PHILOSOPHY.*

B. ETHICS.

FIRST YEAR.

I.

1. History of Philosophy.⁵⁶ *Morris' Ueberweg*. I. 14-137.
2. } Socrates and the Socratic Schools.⁴³ *Zeller*.
- } Four Phases of Morals.⁵⁷ *Blackie*.
3. Aristotle's Ethics.⁷ *Browne*.

II.

1. History of Philosophy.⁵⁶ *Morris' Ueberweg*. I. 138-259.
2. Lectures on the True, the Beautiful and the Good.² *Cousin*.
3. History of Materialism.⁴⁹ 3 Vols. *Lange*.

III.

1. History of Philosophy.⁵⁶ *Morris' Ueberweg*. I. 261-484.
2. Kant's Ethics.³⁰ *Porter*.
3. A Thesis (of not less than 5,000 words) on the Relation of the Doctrine of Evolution to Existing Systems of Morals.

SECOND YEAR.

I.

1. History of Philosophy.⁵⁶ *Morris' Ueberweg*. II. 1-135.
2. Christianity and Positivism.¹¹ *McCosh*.
3. Ethics of Theism.⁷⁷ *Leitch*.

II.

1. History of Philosophy.⁵⁶ *Morris' Ueberweg*. II. 135-347.
2. Theory of Morals.⁵⁷ *Janet*.
3. Social Morality.⁴⁴ *Maurice*.

III.

1. Types of Ethical Theory. *Martineau*.
2. Conscience.³⁷ *Joseph Cook*.
3. A Thesis (of not less than 5,000 words) on The Philosophy of Christian Morals.

* In this department the candidate is required to take each year entire.

EVIDENCES OF CHRISTIANITY.*

FIRST YEAR.

I.

1. Supernatural Origin of Christianity.⁶⁷ *Fisher.*
2. Divine Origin of Christianity as indicated by its historical effects.⁶⁴ *Stone.*
3. The Historical Evidence of the Truth of the Scripture Records.⁶² *Rawlinson.*

II.

1. The Method of the Divine Government.¹¹ *McCosh.*
2. Nature and the Supernatural.⁶⁷ *Bushnell.*
3. The Theistic Conception of the World.⁶¹ *Cocker.*

III.

1. The Grounds of Theistic and Christian Belief.⁶⁷ *Fisher.*
2. The Logic of Christian Evidence.²⁰ *Wright.*
3. A Thesis of not less than 5,000 words on Comparative Religions.

SECOND YEAR.

I.

1. The Life of Christ.⁶⁴ *Edersheim.*
2. Divinity of Our Lord Jesus Christ.²¹ *Liddon.*
3. Self Revelation of God.⁶⁷ *Harris.*

II.

1. Studies in Theism.⁶¹ *Bowne.*
2. Science and Religion,⁴⁴
or
Philosophy of the Infinite. } *Calderwood.*
3. Christianity and Science. *Peabody.*

*In this department the candidate is required to take each year entire.

III.

1. The Theistic Argument as affected by Recent Theories ³⁷
Diman.
2. Bible Theology and Modern Thought.⁴⁰ *Townsend.*
3. Evidences of Christianity in the 19th Century.³² *Barnes.*

A Thesis of not less than 5,000 words on the relation of Christianity to Neo Platonism, or on some topic connected with the Philosophy of the Christian Religion.

CHEMISTRY.

I.

THEORETICAL CHEMISTRY.

1. Chemistry.² *Roscoe and Schorlemer*, 4 vols.
2. Chemical Physics.⁶⁸ *Cooke*.
3. Organic Chemistry.² *Miller*.

II.

PRACTICAL CHEMISTRY.

1. Quantitative Analysis.⁶⁶ *Fresenius*.
2. Chemical Analysis of Medicine.² *Hoffman*.
3. Manual of Blowpipe Analysis.⁶⁶ *Richter and Cornwall's Platner*.

III.

APPLIED CHEMISTRY.

1. Chemist's Manual.⁶⁶ *Mott*.
2. Chemical Technology.² *Wagner*.
3. Industrial Chemistry.⁷⁰ *Payne*.

IV.

RELATED CHEMISTRY.

1. Religion and Chemistry.⁶⁷ *Cooke*.
2. Hand-book of Commercial Chemistry.² *Normandy*.
3. Experiments in Related Chemistry.⁷⁰ *Sadtler*.

V.

1. Modern Theories of Chemistries.⁴⁴ *Meyers*.
2. Chemical Physics.⁴⁴ *Miller*.
3. Organic Chemistry.⁴⁴ *Armstrong*.

VI.

1. Chemical Analysis.⁴⁴ *Crooks*.
2. Recent advances in Science.⁶⁶ *Tait*.
3. Chemistry of the Sun.⁴⁴ *Lockyear*.

PHYSICAL SCIENCE.

I.

THE EARTH.

1. The Earth.⁵² *Reclus*.
2. Earth and Man.⁵⁷ *Guyot*.
3. Man and Nature.⁵⁷ *Marsh*.

II.

MAN.

1. The Early History of Mankind.⁴⁸ *Tylor*.
2. The Races of Man.² *Peschel*.
3. Natural History of Man.⁴⁸ *Pritchard*.

III.

PHYSIOLOGY.

1. Physiology of Common Life.² *Lewes*.
2. Comparative Physiology. *Carpenter*.
3. Physiology of Man—Nervous System.² *Flint*.

IV.

RELATIONS OF MIND AND BODY.

1. Mind and Body.² *Bain*.
2. Physiology and Pathology of the Mind.² *Maudsley*.
3. Mental Physiology.² *Carpenter*.

V.

RELATIONS OF SCIENCE AND PHILOSOPHY.

1. Principles of Science.² *Jevon*.
2. Physical Basis of Mind.⁴⁹ *G. H. Lewes*.
3. Theistic Conception of the Universe.⁵¹ *Cocker*.

VI.

DEVELOPMENT OF MIND.

1. Origin of Civilization.² *Lubbock*.
2. Primitive Culture.⁴⁸ *Tylor*.
3. Prehistoric Times.² *Lubbock*.

FRENCH LANGUAGE AND LITERATURE.*

FIRST YEAR.

I.

1. La Prononciation Française.⁴⁶ *M. A. LeSaint.*
2. The Philology of the French Language.³¹ *A. L. Meissner.*
3. Grammaire Historique de la Langue Française.³⁴ *A. Brachet.*

II.

1. La Littérature Française.⁵⁰ *E. Gérusez.* 2 Vols.
2. Les Poètes Français.²⁸ *E. Crépet.* 1st and 2d Vols.

III.

1. Several of Molière's Comedies.
2. A dissertation, of not less than 2,000 words, upon Molière, Bossuet or Lamartine.

SECOND YEAR.

I.

1. Französische Grammatik mit besonderer Berücksichtigung des Lateinischen.⁷² *E. Mätzner.*
2. Syntax der Neufranzösischen Sprache.⁷² *E. Mätzner.*

II.

1. Histoire de la Langue Française.¹⁶ *E. Littré.* 2 Vols.
2. La Littérature Française.²⁴ *D. Nisard.* 4 Vols.

III.

1. Les Poètes Français.²⁸ *E. Crépet.* 3d and 4th Vols.
2. Three Tragedies by *Corneille* or *Racine*.
3. A dissertation, of not less than 3,000 words, upon *Corneille*, *Racine*, *Victor Hugo* or *Balzac*.

*In this department the candidate is required to take each year entire.

GERMAN LANGUAGE AND LITERATURE.*

FIRST YEAR.

I.

1. Neuhochdeutsche Sprache.⁶⁹ *A. Engelein.*
2. Deutsche National Litteratur.⁹ *H. Kluge.*

II.

1. Deutsche Gedichte.⁶⁷ *T. Echtermeyer.*
2. Geschichte der Poetischen Litteratur der Deutschen.³³ *W. C. Hahn.*
3. Deutsche Grammatik.⁷⁸ *K. J. Becker.*

III.

1. Das Niebelungenlied.²⁶ *L. Freitag.*
2. Geschichte des Dreissigjährigen Krieges. *Schiller.* Or its equivalent in classical German prose.
3. A dissertation, of not less than 2,000 words, upon Lessing, Schiller or Goethe.

SECOND YEAR.

I.

1. Philosoph-Historische Grammatik der Deutschen Sprache.⁴⁵ *R. Westphal.*
2. Die Deutsche Sprache.¹⁵ *A. Schleicher.*

II.

1. Neuhochdeutsche Wortbildung.⁶ *A. Jajteles.*
2. Geschichte der Deutschen-Litteratur.⁶⁸ *W. Sherer.*
3. The German Classics from the Fourth to the Nineteenth Century.⁶⁷ *F. Max Müller.* 2 Vols.

*In this department the candidate is required to take each year entire.

III.

1. Die Deutsche National-Litteratur des Neunzehnten Jahrhunderts.⁶³ *R. von Gottschall.*
2. Das Landhaus am Rhein.¹⁶ *B. Auerbach.*
3. A dissertation, of not less than 3,000 words, upon the Niebelungenlied, the Faust legend or Romanticism.

*ÆSTHETICS AND THE HISTORY OF THE FINE ARTS.**

FIRST YEAR.

I.

1. The Nature of the Fine Arts.⁴⁴ *H. Parker.*
2. Lectures on Art.⁶³ *W. Armitage.*
3. Introductory Studies in Greek Art.⁶⁵ *J. E. Harrison.*

II.

1. Schools and Masters of Painting.² *A. G. Radcliffe.*
2. Architectural Styles.¹⁴ *A. Rosengarten.*
3. History of Ancient Sculpture.¹⁹ *L. M. Mitchell.* 2 Vols.

III.

1. Handbook of Archæology.⁷ *H. M. Westrop.*
2. Christian Archæology.⁵¹ *C. W. Bennett.*
3. Ancient Rome in the Light of Recent Discoveries.³⁷ *R. Lanciani.*
4. A dissertation, of not less than 2,000 words, upon Greek Art in general, Greek Sculpture or Greek Architecture.

SECOND YEAR.

I.

1. History of Ancient Art.³² *F. von Reber.*
2. History of Medieval Art.³² *F. von Reber.*
3. Discourses on Architecture.⁷³ *E. Viollet-le Duc.* 2 Vols.

II.

1. History of Painting.¹⁰ *Woltmann and Woermann.* 2 Vols.
2. History of Architecture.¹⁰ *J. Ferguson.* 2 Vols.
3. Mural Painting.⁷³ *F. Crowninshield.*

*In this department the candidate is required to take each year entire.

III.

1. Raphael's Life and Works.⁴⁸ *Crowe and Cavalcaselle*. 2 Vols.
2. Life and Works of Albert Dürer.⁴⁸ *M. Thausig*. 2 Vols.
3. A dissertation, of not less than 3,000 words, upon Raphael, Albert Dürer, or the Italian, Spanish, German or English School of Painting.

LATIN LANGUAGE AND LITERATURE.

I.

1. Plautus, *Miles Gloriosus*.⁴⁴ *Tyrrell*.
2. Plautus, *Mostellaria*.¹ *Morris*.
3. Terence, *Adelphœ*.²² or (Weale Series,¹ *Davies*).
4. Remnants of Early Latin.²⁹ *Allen*.
5. Roman Poets of the Republic.⁴⁴ *Sellar*.
 Read: *Lectures on the History of Rome*.¹ *Niebuhr*. Vol.
 ii. lecture lxx.
 History of Rome.¹ *Mommsen*. Book iv. chap.
 xiii.
 Roman Literature in Relation to Roman Art.⁴⁴
 Burn.

II.

1. Livy, Book I.⁴⁴ *J. R. Seeley*.
2. Ovid, *Metamorphoses*.¹ *Haupt*.
3. Cicero, *De Natura Deorum*.²⁹ *Stickney*.
4. *History of Roman Literature*.¹ *Teuffel*. *Wagner's* translation, vol. i. pp. 1-226.
5. *Manual of Mythology*.¹ *Murray*. Or
 Classical Mythology.¹ *Keightly*. Ed. *Schmitz*.
 Read: *Lectures on the History of Rome*. *Niebuhr*. Vol.
 i. lectures i-xi. inclusive
 Ten Great Religions.²⁷ *Clarke*. Chap. viii.
 History of the City of Rome.¹ *Dyer*.
 History of Rome. *Mommsen*. Bk. i chap. xii;
 bk. ii. chap. viii; bk. iii. chap. xiii; bk. iv. chap.
 xii; bk. v. chap. xii.

III.

1. Cicero, *De Oratore*.¹ *Crowell*.
2. Quintilian, *Institutiones Oratoriæ*.² *Frieze*. Bks. x. and xii. Or
 Selections from Quintilian.²⁹ *Wheeler*.

3. Tacitus, *Dialogus de Oratoribus*.²²
4. Horace, *Ars Poetica*.²² Or
Cicero, Second Philippic Oration.⁴ *Halm*. Ed. *Mayor*.
5. History of Roman Literature. *Teuffel*. Vol. i.
Read: History of Rome. *Mommsen*. Book v. chap. xii.
Old Roman World.⁵⁶ *Lord*.
Civil and Literary Chronology of Rome.¹ *Clinton*.

IV.

1. Horace, Fourth Book of Odes, the Satires and Epistles.¹
2. Selections from the Latin Poets²⁰ *Crowell*. Or
Martial, Select Epigrams.⁴⁴ *Stephenson*.
3. Latin Hymns.³² *March*. (*Douglass Series*). Or
Sacred Latin Poetry.⁴⁴ *Trench*.
4. Prosody, Versification.
5. Composition of an Ode or Poem in Latin.
Read: Rhythmic and Metric of the Classical Languages.²⁹
Schmidt. (Trans. by *White*.)
Roman Poets of the Augustan Age.⁴⁴ *Sellar*.
Lectures on the History of Rome. *Niebuhr*. Vol.
iii. lectures cvi. and cvii.

V.

1. Ovid, *Fasti*. *Hallam*⁴⁴ or *Paley*.¹
2. Catullus, Text and Notes.⁴⁴ *Ellis*.
3. Juvenal, Satires.²² Or
Propertius, Select Elegies.⁴⁴ *Postgate*.
4. Persius, Satires, *Conington* ed. *Nettleship*,⁴⁴ or *Gildersleeve*.³²
or *Hart*.¹
5. Prosody, Versification.
6. Essay on the Roman Satire.⁴⁴ *Nettleship*.
Read: Manual of Latin Prosody.⁶⁰ *Ramsay*.
Roman Poets of the Republic. *Sellar*. Chap. xv.
History of Rome. *Mommsen*. Vol. iii. p. 550 fol.

VI.

1. Tacitus, *Historiæ*, Books i. and ii. *Broadbent*⁴⁴ or *Simcox*,¹
vol. i. or *Tyler*.²
2. Cæsar, *De Bello Civili*.⁴⁴ *Moberly*.
3. History of Roman Literature. *Teuffel*. Vol. ii.
4. Lectures on Ethnography and Geography.¹
Schmitz's Niebuhr. Vol. ii.
5. Analysis of Roman History.¹ *Turner*.
Read: Credibility of Early Roman History.¹ *Lewes*,
Translation of Livy.¹ Vol. i. *Baker*.
Pompeii; its Buildings and Antiquities.¹ *Dyer*.

VII.

1. Cicero, Selected Letters.⁴⁴ *Pritchard and Bernhard*.
2. Pliny, Letters. *Peck*²⁹ or *Holbrooke*.¹
3. Ovid, *Heroidum Epistolæ*,⁴⁴ xiii. *Shuckburgh*. Or
Catullus, Select Poems.⁴⁴ *Simpson*.
4. Roman Life.² *Guhl and Kohner*.
Read: Modern Philology.⁵⁶ *Dwight*. Vol. i.
History of Rome. *Mommsen*. Book iii. chap. xiii;
book iv, chap. xii.
Essay on the Philosophy of Roman History.
De Quincy.

VIII.

1. Lucretius, *De Rerum Natura*.¹ *Munro*.
2. Cicero, *Academica*.⁴⁴ *Reid*. And *De Natura Deorum*.²⁹
Stickney.
3. Gallus, especially the Excursuses.¹ *Becker*.
4. Greek and Latin Etymology.⁴⁴ *Piele*. Or
Manual of Comparative Philology.⁴⁴ *Papillon*. Or
Latin Prose. *Arnold*. Part II.
Read: Sketch of Ancient Philosophy.⁴⁴ *Mayor*.
History of Ancient and Medieval Philosophy.⁵⁶
Ueberweg. (Trans. by Morris.) Secs. 52-61.

Oriental and Linguistic Studies, 2d Series. The East and West; Religion and Mythology. *Whitney*.

On the Ablaut of Greek Roots, etc. *Bloomfield*.
American Journal of Philology, vol. i, No. 3.

IX.

1. Seneca, Moral Essays.³² *Hurst & W.* Or
Suetonius, Lives of Roman Emperors.⁴⁴ *Bramwell*.
2. Tertullian, Select Works.³² (*Douglass Series*).
3. Latin Selections.¹ *Smith*.
4. Lectures on Roman Law.² *Hadley*.
Read: The Cæsars. *De Quincey*.
The Roman and Teuton.⁴⁴ *Kingsley*.
The Imperfect and Pluperfect in the Roman Folk-Speech. *Fay*. *American Journal of Philology*,
vol. i. No. 4.
Catacombs of Rome. *Withrow*.

THESES.

- Two Theses are required: 1. The one required in the Introductory note; subject, The Causes of Rome's National and Literary Decline. Choice of the following subjects for the second Thesis: 1. The Mythical Element in Roman Literature. 2. Roman Art.

REFERENCE WORKS.

New Classical Dictionary.¹ *Smith*.
Dictionary of Greek and Roman Antiquities.¹ *Rich*.
Manual of Roman Antiquities.¹ *Ramsay*.
Manual of Ancient Geography.¹ *Schmitz*.
Hand-book of Archæology.¹ *Westropp*.
Archæology of Rome.¹ *Parker*.
Rome and the Campagna.¹ *Burn*.
Bibliographical Clue to Latin Literature.⁴⁴ *Hubner and Mayor*.

HISTORY.

A. ANCIENT HISTORY.

I.

1. History of Greece. *Grote*. Part I. and Part II. to Chap. 48, omitting Chaps. 17, 18, 19, 20.
2. Five Great Monarchies. *Rawlinson*.
3. History of Rome. *Mommsen*. Books I. II. Or
4. History of Rome. *Ihne*. Vol. I.
5. History of Egypt.⁴⁸ *Brugsch*.

II.

1. History of Greece. *Grote*. Chaps. 48 to 75 inclusive.
2. History of Rome. *Mommsen*. Books III. IV. Or *Ihne* Vol. II.
3. Politics.⁴⁴ *Aristotle*.
4. History of Philosophy.⁵⁷ *Ueberweg*. Vol. I. (Morris' Translation) to p. 259.
5. The Ancient City.⁴⁰ *Coulanges*.

III.

1. History of Greece. *Grote*. Chaps. 76 to 98 inclusive.
2. History of Rome. *Mommsen*. Book V. Or
3. History of Rome. *Ihne*. Vol. III.
4. Federal Government.⁴⁴ *Freeman*. Vol. I. Chaps. 1 to 10.
5. History of Greek Literature.³² *Mahaffy*.
6. Ancient Law.³⁶ *Maine*.

IV.

1. History of Rome. *Merivale*. First 22 Chaps.
2. History of Philosophy. *Ueberweg*. (Morris' Trans.) Vol. I. pp. 261-484.
3. Ancient Art and Its Remains. *Müller*. (Leitch's Trans.) Part I. to p. 260. Or
4. Art-Archæology.⁸ *Westropp*. First half.
5. Public Economy, &c.⁴² *Boeckh*. Books I. II.

V.

1. History of Rome. *Merivale*. Chaps. 23 to 50 inclusive.
2. History of the Christian Church. *Schaff*. Vol. II.
3. Art-Archæology.⁸ *Westropp*. Last half.
4. History of Architecture.⁴⁸ *Fergusson*. Part II.
5. History of Roman Literature. *Teuffel*. Or
6. The Roman Poets of the Republic. *Sellar*.

VI.

1. History of Rome. *Merivale*. Chaps. 51 to 78.
2. History of the Christian Church. *Schaff*. Vol. III.
3. Decline and Fall, etc. *Gibbon*. Chaps. 1 to 24 inclusive.
4. History of Roman Law.² *Hadley*. Or
5. Studies in the Roman Law. *Mackenzie*.
6. Catacombs of Rome. *Withrow*.

In connection with the course such works as *Eber's Uarda*, *Becker's Charicles*, and Gallus, *Kingsley's Hypatia*, *Macaulay's Lays of Ancient Rome*, with Introduction, *Ware's Zenobia*, *Wiseman's Fabiola*, etc., may be read with profit.

B. GENERAL HISTORY OF THE WEST.

I.

1. History of Greece.⁶⁷ *Curtius*. First half.
2. History of Philosophy. *Ueberweg*. (Morris' Translation).
Vol. I. pp. 15-259.
3. History of Rome. *Mommsen*.
4. History of Federal Government. *Freeman*. Chaps. 1, 2,
3, 4, 5, 6.
5. Art-Archæology.⁸ *Westropp*. First half.

II.

1. History of Greece. *Curtius*. Finished.
2. History of Rome. *Merivale*. Vols. I. II.
3. The Ancient City.⁴⁰ *Coulanges*.
4. History of Philosophy. *Ueberweg*. (Morris' Translation).
Vol. I. from p. 264.
5. History of Architecture. *Fergusson*. Part I.
6. History of the Christian Church. *Schaff*. Vol. II.

III.

1. The Fall of Rome and the Rise of the New Nationalities.²
Sheppard.
2. Decline and Fall, etc. *Gibbon*. Chaps. 49, 50, 58, 59, 60,
61, 62, 69, 70.
3. Roman Law. *Hadley*. Or
4. Studies in the Roman Law. *Mackenzie*.
5. History of England. *Green*. Vols. I. II.
6. History of Art. *Lübke*. Book III.
7. The Holy Roman Empire.⁴⁴ *Bryce*.

IV.

1. The Period of the Reformation.² *Haüsser*.
2. History of the Rise of the Huguenots in France. *Baird*.
3. History of the Struggle for Parliamentary Government in
England.⁴⁵ *Bisset*.

4. History of the United States. *Hildreth*. Vols. I. II. III.
5. The Italian Renaissance.⁷⁴ *Burckhardt*.
6. History of Art. *Lübke*. Book IV. Chaps. 1, 2, 3, 4, 5.
7. History of Russia.²³ *Rambaud*.

V.

1. Frederick the Great. *Carlyle*.
2. History of England in the 18th Century. *Lecky*.
3. Constitutional History of England. *May*.
4. History of the United States. *Hildreth*. Vols. IV. V. VI.
5. Ancient Regime. *Taine*.

VI.

1. French Revolution.⁸ *Mignet*.
2. Life and Times of Stein.⁷³ *Seeley*.
3. Napoleon the First. *Seeley*.
4. History of Our Own Times. *McCarthy*.
5. History of the Constitution of the United States. *Bancroft*.
6. Modern Philosophy.⁵⁷ *Ueberweg*. Vol. II.

Works like *Becker's* Charicles, and Gallus, *Kingsley's* Hypatia, *Ware's* Zenobia, and *Wiseman's* Fabiola, may be read with profit in connection with I. and II; *Scott's* Ivanhoe, Talisman, and Quentin Durward, with III; *George Eliot's* Romola, *Mrs. Charles' Schönberg-Cotta* Family, *Thackeray's* Henry Esmond, and *De Vigny's* Cinq Mars, and *Scott's* Waverly, with IV. and V; *Thackeray's* Virginians, *Bungener's* The Priest and the Huguenot, *Dickens's* Tale of Two Cities, *George Eliot's* Adam Bede, and some of the *Erckmann Chartrain* series with V. and VI.

C. MODERN HISTORY OF WESTERN EUROPE.

I.

1. Constitutional History of England. *Stubbs*.
2. Decline and Fall, etc. *Gibbon*. Chaps. 69 and 70.
3. A View of Society in the Middle Ages. *Robertson*, in his History of Charles V.
4. Ferdinand and Isabella. *Prescott*.
5. Divina Commedia. *Dante*.

II.

1. History of Charles V. *Robertson*.
2. History of Philip II.² *Prescott*.
3. The Period of the Reformation. *Haüser*.
4. History of France. *Stephen*. Lectures 1-12.
5. History of England. *Green*. Vol. I.
6. Constitutional History of England. *Hallam*. Chaps. 1-3.

III.

1. History of England. *Green*. Vol. II.
2. Rise of the Huguenots in France. *Baird*.
3. Rise of the Dutch Republic. *Motley*.
4. Constitutional History of England. *Hallam*. Chaps. 4-7.
5. History of France.³² *Stephen*. Lectures 13-17.

IV.

1. History of England. *Green*. Vol. III.
2. History of the Commonwealth of England.⁴⁸ *Bisset*.
3. Constitutional History of England. *Hallam*. Chaps 8-15.
4. Thirty Years' War. *Gardiner*.
5. History of France.³² *Stephen*. Lectures 20-24.
6. History of Civilization. *Guizot*. Vol. I.

V.

1. History of Frederick the Great. *Carlyle*.
2. History of England in the 18th Century. *Lecky*.
3. The Ancient Régime. *De Tocqueville*. Or
4. The Ancient Régime. *Taine*.
5. History of the French Revolution. *Taine*.
6. Constitutional History of England, *Hallam*. Chaps. 16-18.

VI.

1. History of Modern Europe. *Alison*. Vols. III. IV. V. VI.
2. Constitutional History of England.² *May*.
3. History of Modern Philosophy. *Ueberweg*. (Morris' Translation).

For romances in connection with this course see Course B.

D. AMERICAN HISTORY.

I.

1. History of the Ancient North Americans. *Short*. Or
2. Prehistoric Races of the United States.³⁰ *Foster*.
3. Account of Pre-Columbian Discoveries in his History of the United States. *Ridpath*.
4. Pioneers of France in the New World. *Parkman*.
5. Spanish Conquest of America. *Helps*.
6. History of the United States. *Bancroft*. Vols. II. III. Compared with
7. History of New England. *Palfrey*. Vol. I.

II.

1. History of the United States. *Bancroft*. Vols. I. II. III. Compared with
History of the United States. *Hildreth*. Chaps. 1-25.
2. Conquest of Mexico. *Prescott*.
3. History of New England. *Palfrey*. Vols. II. III.
4. The Jesuits of North America. *Parkman*.

III.

1. History of the United States. *Bancroft*. Vols. IV. V. VI.
2. History of the United States. *Hildreth*. Chaps. 26-30.
3. Taxation no Tyranny. *Dr. Johnson*.
Compared with
Franklin's Examination before the Committee of the House of Commons. *Bigelow's Life of Franklin*.
4. History of New England. *Palfrey*. Vol. IV.
5. Lectures on the American War. *Smyth*. In Lectures on Modern History.⁷³
6. Common Sense. *Thomas Paine*.
7. Speeches of April 19th, 1774, and On the Reconciliation of America, 1775. *Burke*.
8. The Rise of the Republic. *Frothingham*.

IV.

1. History of the United States. *Hildreth*. Chaps. 31-43.
2. Life of Washington. *Marshall*.
3. Life of Jefferson. *Randall*.
4. Constitutional and Political History of the United States.
Von Holst. Vol. I.
5. Life of Franklin. *Bigelow*.
6. Life of Alexander Hamilton. *Morse*.

V.

1. History of the United States. *Hildreth*. Chaps. 44, 48,
and Vol. I. of Second Series.
2. The Federalist. *Dawson's*.
3. History of the Constitution of the United States. *Bancroft*.
4. Democracy in America. *De Tocqueville*.
5. Constitutional and Political History. *Von Holst*. Vol. II.

VI.

1. History of the United States. *Hildreth*. Second Series,
Vols. II, III.
2. Thirty Years' View. *Benton*.
3. Constitutional and Political History. *Von Holst*. Vol. III.
4. History of the Civil Contest. }
5. A Constitutional View of the War Between } Compared.
the States *Stephens*. }
6. Slavery and Anti-Slavery. *Goodell*.

In connection with II. and III. it is recommended to read some romances treating of the beliefs and customs of the period—as *Minister's Wooing*, and *Old Town Folks*, by *Mrs. Stowe*.

E. POLITICAL AND CONSTITUTIONAL HISTORY.

I.

1. Constitutional History of England,⁴⁴ from its origin to Henry VII. *William Stubbs.*
2. Constitutional History of England from Henry VII. to George IV. *Hallam.*
3. Ancient Law.³⁶ *H. Maine.*

II.

1. The Constitutional History of England, since the Accession of George III. *T. E. May.*
2. The Imperial and Colonial Constitutions of the Britannic Empire.⁷⁵ *Sir Edward Creasy.*
3. Civil Service in Great Britain. *D. B. Eaton.*
4. Political Science. *T. D. Woolsey.*

III.

1. The Rise of the Republic of the United States. *R. Frothingham.*
2. History of the Constitution of the United States. *B. T. Curtis.*
3. The Nation. *E. Mulford.*
4. Proportional Representation. *C. R. Buckalew.*

IV.

1. Political and Constitutional History of the United States. *H. Von Holst.*
2. Thirty Years' View. *T. Benton.*
3. Political Ethics. *Francis Lieber.*

1. Slavery and Anti-Slavery. *William Goodell.*
2. The American Conflict. *H. Greeley.* Compared with
3. A Constitutional View of the War between the States. *A. H. Stephens.* Or with
4. The Lost Cause. *H. Pollard.*
5. On Liberty. *J. S. Mill.*
6. Physics and Politics. *W. Bagehot.*

VI.

A Comparative Study of the Constitutions of the several States of the American Union,—using for this purpose,

1. The Federal and State Constitutions, etc. *Ben Perley Poore.*
Or
2. Federal and State Constitutions, etc. *Franklin B. Hough.*

BOTANY.*

I. II. VEGETABLE ANATOMY.

1. Botany for Schools.³⁶ *Bessey*. Pp. 1-165.
2. Physiological Botany.³⁸ *Goodale*. Pp. 1-194. With exercises in Appendix, pp. 1-17.
3. THESIS embodying results of the study of the minute anatomy of a single phanerogam or fern; this to be accompanied by a series of illustrative slides and drawings.

The following works are necessary for reference:

Vergleichende Anatomie der Vegetationsorgane der Phanerogamen und Farne.³⁷ (or English translation.⁴⁴) *De Bary*.
 Botanical Micro-Chemistry.¹³ *Poulsen and Trelease*.
 Practical Botany.⁴⁴ *Bower*.

III. VEGETABLE PHYSIOLOGY.

1. Physiological Botany.³⁸ *Goodale*. Pp. 195-478, with exercises in Appendix, pp. 18-35.
2. THESIS showing results of an original investigation in vegetable physiology.

The following will be found desirable for reference:

Vorlesungen über Pflanzen-Physiologie.²⁶ (or English translation.⁴⁴) *Sachs*.

IV. PHANEROGAMIC BOTANY.

1. Structural Botany.³⁸ *Gray*.
2. Botany for Schools.³⁶ *Bessey*. Pp. 389-565.
3. Outlines of Classification and Special Morphology.⁴⁴ *Gabel*. Pp. 299-472.

* Persons entering this course are expected to have had preliminary work in Botany equivalent to Bessey's "Essentials of Botany."³⁶

4. Preparation of herbarium of not less than three hundred named and mounted flowering plants, using for determinations:

Manual of Botany.³⁸ *Gray*.*

Synoptical Flora of North America.³⁸ *Gray*.

The following are recommended for reference:

Traité général de Botanique.²⁷ *Le Maout et Decaisne*.

Bluthen Diagramme.²⁷ *Eichler*.

Die Befruchtung der Blumen.²⁷ (or English translation.⁴⁴) *Müller*.

V. CRYPTOGRAMIC BOTANY.—General.

1. Botany for schools.³⁰ *Bessey*. Pp. 202-388.
2. Outlines of Classification and Special Morphology.⁴⁴ *Gæbel*. Pp. 1-298.

VI. CRYPTOGRAMIC BOTANY.—Special.†

1. Vergleichende Morphologie und Biologie der Pilze, Mycetozoen und Bacterium.²⁷ (or English translation.⁴⁴) *DeBary*.
2. Collection of not less than 150 named species of Fungi, using for determinations:

Kryptogamen — Flora Deutschlands. — Die Pilze.²⁷ *Winter*.

Hand book of British Fungi.²⁵ *Cooke*.

Reports of State Botanist [of New York].²⁵ *Peck*.

The Mycologic Flora of the Miami Valley.²⁵ *Morgan*.

The Parasitic Fungi of Illinois.²⁵ *Burrill*.

* In case the candidate is studying in some part of the country not included in the limits of this work other works will be recommended as:

Flora of the Southern States.³⁸ *Chapman*.

Flora of the Rocky Mountain Region.³⁸ *Coulter*.

Botany of California.¹⁷ *Watson*.

† The unit above given indicates a special line of study in the Fungi. Any other group like the Marine or Fresh Water Algæ, Lichens, Hepatics, Mosses or Ferns may be selected when suitable works of reference will be assigned.

ZOOLOGY.

I.

1. Zoology.³⁶ *Packard*. Pp. 1-388.
2. Text Book of Zoology.⁴⁴ *Claus and Sedgwick*. Part I. pp. 180-599; Part II. pp. 9-109.
3. Elements of Comparative Anatomy.⁴⁴ *Gegenbaur*. Pp. 1-407.
4. Handbook of Invertebrate Zoology.¹³ *Brooks*.

II.

1. Zoology.³⁶ *Packard*. Pp. 389-630.
2. Text Book of Zoology.⁴⁴ *Claus and Sedgwick*. Part II. pp. 9-340.
3. The Cat.⁵⁷ *Mivart*.
4. Elements of Comparative Anatomy.⁴⁴ *Gegenbaur*. Pp. 408-624.

III.

1. Insects Injurious to Vegetation.¹³ *Harris*.
2. Guide to the Study of Insects.³⁶ *Packard*.
3. Collection of one hundred and fifty species of insects illustrating all orders.

IV.

Systematic study of some order or family of insects, or a special study of the insects injurious to some particular form of vegetation.

Works of reference will be given on announcement of subject.

V.

1. Life Histories of Animals.³⁶ *Packard*.
2. Comparative Embryology.⁴⁴ *Balfour*. 2 Vols.
3. Collection of a series of fifty embryos with notes thereon

VI.

1. The Skeleton and the Teeth.²⁶ *Owen.*
2. Osteology of the Mammalia.⁴⁴ *Flower.*
3. Preparation of an entire skeleton.

VII.

Systematic study of any limited group of animal life, as some family of Birds, Reptiles, Fishes, Crustacea or Mollusca, with collections.

Suitable references to literature will be given on announcement of subject.

VIII.

1. Text Book of Zoology.⁴⁴ *Claus and Sedgwick.* Part I. pp. 1-179.
2. The Geographical Distribution of Animals.³² *Wallace.*
3. Island Life.³² *Wallace.*
4. Origin of Species.² *Darwin.*
5. Natural Selection.⁴⁴ *Wallace.*
6. The Genesis of Species.² *Mivart.*
7. The Evolution of To-day.⁶³ *Conde.*
8. *Natürliche Schöpfungsgeschichte*,²⁷ (or English translation.²) *Haeckel.*

IX.

1. Anthropology.² *Tylor.*
2. Races of Men.² *Peschel.*
3. Prehistoric Races of the United States.³⁰ *Foster.*
4. Prehistoric Times.² *Lubbock.*
5. Man's Place in Nature.² *Huxley.*
6. The Cranial Affinities of Man and the Ape.¹⁶ *Virchow.*
7. Descent of Man.² *Darwin.*
8. Anthropogenie,²⁷ (or English translation.²) *Haeckel.*
9. Preadamites.³⁰ *Winchell.*

GEOLOGY.*

I. DYNAMIC GEOLOGY.

1. Principles of Geology.² *Lyell*. Vol. I. pp. 103-655. Vol. II. entire.
2. Elements of Geology.² *Le Conte*. Pp. 1-163.
3. Manual of Geology.³⁸ *Dana*. Pp. 605-844.
4. Chemical and Geological Essays.¹⁸ *Hunt*.

II. MINERALOGY.

1. College Chemistry.⁴⁷ *Barker*. Pp. 1-86 with the problems.
2. Text Book of Mineralogy.⁷⁰ *E. S. Dana*.
3. Blowpipe Analysis.⁶² *Nason*. Or,
Blowpipe Analysis.⁷⁰ *Brush*.
4. Collection of seventy-five mineral species, using for determinations:
Handbook of Mineralogy.⁷ *Foye*.
Manual of Mineralogy.⁷⁰ *F. D. Dana*.

III. LITHOLOGY.

1. Manual of Geology.³⁸ *Dana*. Pp. 47-79.
2. Manual of Mineralogy.⁷⁰ *Dana*. Pp. 409-456.
3. Text Book of Geology.⁴⁴ *Geikie*. Pp. 30-194; 474-602.
4. Microscopic Petrography.²⁶ *Zirkel*.
5. Collection and determination of one hundred lithological specimens.

IV. PALÆONTOLOGY.

1. Elements of Geology.² *Le Conte*. Pp. 277-613.
2. Manual of Geology.³⁸ *Dana*. Pp. 136-604.
3. Manual of Palæontology. *Nicholson*.
4. Collection of fifty named species of fossils.

* Give careful attention to the notes at the end of the course.

V. ECONOMIC GEOLOGY.

1. Applied Geology. *Williams*.
2. Thesis of not less than 3,000 words representing the results of actual investigations concerning the nature and quality of some economic product.

VI. DETAILED STUDY OF SOME EPOCH, PERIOD, OR AGE OF GEOLOGIC HISTORY.

Suitable works will be recommended on announcement of subject.

VII. SYSTEMATIC STUDY OF SOME GROUP OF ORGANIC REMAINS.

As the *Crustacea*, *Brachiopoda*, *Ungulata*, Birds, Ferns, or even a more limited group, as the *Odontorniths*, *Eozoon*, etc.

Suitable works will be recommended on announcement of subject.

VIII. GEOLOGIC SUCCESSION OF SPECIES AND ITS RELATION TO THE DOCTRINE OF DERIVATION.

1. Manual of Geology.³⁸ *Dana*. Pp. 160-1, 208-10, 252-3, 288-9, 381-8, 482-6, 588-604.
2. Elements of Geology.² *Le Conte*. Pp. 291-3, 298-9, 339-345, 358-375, 440-451, 517-534.
3. Text Book of Geology.⁴⁴ *Geikie*. Pp. 623-630.
4. Doctrine of Evolution.³² *Winchell*.
5. Sparks from a Geologist's Hammer.³⁰ *Winchell*. Pp. 301-357.
6. The Origin of the Fittest.² *Cope*.
7. The Origin of Species.² *Darwin*.
8. Naturliche Schöpfungsgeschichte,²⁷ (or English translation²). *Haeckel*.

IX. COAL AND METALLIFEROUS DEPOSITS OF THE UNITED STATES.

1. Coal Regions of America.² *Macfarlane*.
2. Mining Industry.²⁶ *King*.
3. Mineral Resources of the United States.¹⁸ *Williams*.
4. Thesis representing the actual survey of some mining locality, with special attention to methods employed; to be accompanied with drawings, diagrams, maps and collections.

X. GEOLOGY OF NEW YORK.*

1. Guide to the Geology of New York State.²⁶ *Lincklaen*. (Appendix to 14th Regent's Report on State Cabinet).
2. Geology of New York.²⁵ *Hall, Emmons, Vanuxem, Mather*. Vols. I-IV.
3. Palæontology of New York.²⁵ *Hall*. Vol. I-V.
4. Preparation of a map by counties, showing geologic formations and hydrography.
5. Collection of a series of rocks and fossils representing the characteristic formations and organic remains.

NOTES.

Candidates entering the course in Geology are expected to be prepared in the general elements of Geology and Zoology, at least as far as treated in Dana's Text Book of Geology,³⁸ and Orton's Comparative Zoology.³² In pursuing the course, Unit III. naturally follows Unit II. and must be preceded by it. In the same way Unit IV. must precede Units VI. VII. or VIII.

In addition to the completion of six units, the candidate for the degree of Ph. D. will be expected to make an actual survey of some county, river course or line of railroad, and present as a final thesis, (1) series of field notes made in the survey. (2) A report of the lithology, geology and palæontology of the survey, drawn up in business-like order, and containing not less than 5,000 words. (3) Maps and diagrams showing the formations studied. (4) A numbered series of rocks and fossils with notes thereon.

* The Geology of any other state or province may be selected, when suitable works will be recommended,

LIST OF PUBLISHERS TO WHICH THE SMALL NUMERALS REFER.

- ¹ John Allyn, Boston.
- ² D. Appleton & Co., New York.
- ³ Armstrong.
- ⁴ A. S. Barnes & Co.
- ⁵ John Bartlett.
- ⁶ W. Braumüller, Wien.
- ⁷ Bell & Daldy, London.
- ⁸ Bohn.
- ⁹ Bonde, Altenburg.
- ¹⁰ Brown & Gross.
- ¹¹ Carter & Brothers.
- ¹² Robert Carter & Co., New York.
- ¹³ S. E. Cassino & Co., Boston.
- ¹⁴ Chatto & Windus, London.
- ¹⁵ J. G. Cotta, Stuttgart.
- ¹⁶ Didier et Cie., Paris.
- ¹⁷ Director Botanic Garden, Cambridge, Mass.
- ¹⁸ Director U. S. Geological Survey, Washington.
- ¹⁹ Dodd, Mead & Co., New York.
- ²⁰ W. F. Draper.
- ²¹ E. P. Dutton.
- ²² Eldredge & Brother, Philadelphia.
- ²³ Estes & Lauriat, Boston.
- ²⁴ Firmin-Didot, Paris.
- ²⁵ Out of print. Apply to A. E. Foote, 1223 Belmont ave., Philadelphia
- ²⁶ Friedberg & Mohe, Berlin.
- ²⁷ R. Friedlander und Sohn, 11 Carlstrasse, Berlin.
- ²⁸ Gide, Paris.
- ²⁹ Ginn & Co., Boston.
- ³⁰ S. C. Griggs & Co., Chicago.
- ³¹ Hachette et Cie., Paris.
- ³² Harper & Brothers, New York.
- ³³ W. Hertz, Leipzig.
- ³⁴ I. Hetzel et Cie., Paris.
- ³⁵ Holt & Williams.
- ³⁶ Henry Holt & Co., New York.
- ³⁷ Houghton, Mifflin & Co., Boston.
- ³⁸ Ivison, Blakeman, Taylor & Co., New York.
- ³⁹ Jansen, McClurg & Co., Chicago.
- ⁴⁰ Lee & Shepard.
- ⁴¹ J. B. Lippincott & Co., Philadelphia.

- 42 Little, Brown & Co.
- 43 Longmans, Green & Co., London.
- 44 Macmillan & Co., New York.
- 45 Mauke, Jena.
- 46 W. Mauke, Hamburg.
- 47 John P. Morton & Co., Louisville.
- 48 John Murray, London.
- 49 James R. Osgood & Co., Boston.
- 50 Perrin et Cie., Paris.
- 51 Phillips & Hunt, New York.
- 52 Porter & Coates, Philadelphia.
- 53 G. P. Putnam & Sons, New York.
- 54 A. D. F. Randolph.
- 55 Scribner & Sons, New York.
- 56 Scribner, Armstrong & Co., New York.
- 57 Charles Scribner's Sons, New York.
- 58 Seaver, Francis & Co., Boston.
- 59 M. Schultze, Berlin.
- 60 Smith, Elder & Co., London
- 61 Sumner, Chicago.
- 62 N. Tibbals & Son.
- 63 Trewendt, Breslau.
- 64 University Press, Cambridge, England.
- 65 T. F. Unwin, London.
- 66 D. Van Nostrand, New York.
- 67 Waisenhaus, Leipzig.
- 68 Weidmann, Berlin.
- 69 B. Westermann & Co., New York.
- 70 John Wiley & Sons, New York.
- 71 Wilson, Hinkle & Co., Cincinnati.
- 72 Berlin.
- 73 Ticknor & Co., Boston.
- 74 London.
- 75 New York.
- 76 C. C. Chatfield & Co., New Haven.
- 77 Andrew Elliott, Edinburgh, Scotland
- 78 J. C. Hermann, Frankfurt-am-Main.

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